ICU COMMISSIONING

ENVINITY
BUILDING ENERGY SOLUTIONS

GUTHRIE

PROJECT HIGHLIGHTS:

ICU Size:	55,625 SF
Cx Cost:	$75,000
Pre Construction Credit:	$200,000
Annual Savings:	$29,100
Utility Rebate:	$51,463
Payback on Cx:	<1 year

GUTHRIE ROBERT PACKER HOSPITAL

Intensive Care Unit Commissioning

Envinity's commercial energy team is a specialty MEP Engineering group that focuses on energy efficiency and commissioning projects at new and existing facilities.

Commissioning (Cx) is the process of achieving, verifying, and documenting the performance of building systems in accordance with the design intent and the client's functional and operational needs. Cx approaches building construction as a whole-system process rather than a series of distinct steps. Especially in an ICU, maintaining precise temperature and pressure conditions is essential, and is dependent on proper Cx.

Envinity's technical expertise allowed for the cost-effective delivery of the scope of work for the Robert Packer Hospital (RPH) ICU. Our engineers provided objective attention and analysis at each stage of Cx process. During the ICU's design review Envinity identified $200,000 worth of savings, before construction even began.

Throughout the ICU Cx, Envinity:

- Identified 96 improvement opportunities during construction
- Tested equipment for proper operation through all modes and conditions
- Maintained continuous dialogue with operations personnel

SELECTED Cx SAVINGS

Strategy	kWh Savings	% Savings
Supply air minimum reduction w/ static pressure reset	97,000+	18%
Zone unoccupied mode w/ static pressure reset	73,000+	13%
CHW and HW pump variable frequency drive	49,000+	9%
Supply air temperature reset	18,000+	3%
TOTAL SAVINGS	**237,000**	**43%**

Envinity's identified measures enabled the ICU to consume 43% less electricity than it would have if commissioned a focus on energy optimization. This is the added value of hiring Envinity's team of Cx engineers.

In addition to the pre-construction credit of $200,000, Envinity secured a one-time rebate of $51,463 for RPH. The issues identified during Cx also resulted in an annual savings of $29,100.

- **CALIBRATED** fan flow stations
- **CORRECTED** duct and condensate trap deficiencies
- **IDENTIFIED** malfunctioning valve dampers
- **IMPLEMENTED** supply temperature and pressure reset schemes
- **REDUCED** energy consumption by 237,000 kWh and 20,000 therms per year
- **RESET** static pressures

HIGH ENERGY PERFORMANCE

is a byproduct of buildings that are well-built and properly commissioned. When correctly commissioned, hospitals better maintain healthy and safe operating conditions AND save money and energy in the process.